A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C09K19/58

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

 $\begin{array}{ccc} \text{Minimum documentation searched} & \text{(classification system followed by classification symbols)} \\ \text{IPC 7} & \text{C09K} \\ \end{array}$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.
X	HAMMOND S R ET AL: "SYNTHESIS AND LYOTROPIC LIQUID CRYSTALLINE BEHAVIOUR OF A TAPER-SHAPED PHOSPHONIC ACID AMPHIPHILE" LIQUID CRYSTALS, TAYLOR AND FRANCIS LTD, LONDON, GB, vol. 29, no. 9, September 2002 (2002-09), pages 1151-1159, XP001116895	1,2
Α	ISSN: 0267-8292 the whole document	3–18
<b>X</b>	ANONYMOUS: "Liquid crystal compositions, methods and devices" RESEARCH DISCLOSURE, no. 12512, September 1974 (1974-09), pages 14-16, XP002264647 Emsworth, GB the whole document	1,2
	-/	*

X Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.		
Special categories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' earlier document but published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed	<ul> <li>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</li> <li>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</li> <li>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</li> <li>"&amp;" document member of the same patent family</li> </ul>		
Date of the actual completion of the international search	Date of mailing of the international search report		
11 December 2003	29/12/2003		
Name and mailing address of the ISA	Authorized officer		
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Serbetsoglou, A		

1

## INTERNATIONAL SEARCH REPORT

International lication No PCT/GB // 03807

	PC1/GB 3/0380/	
ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
US 3 888 566 A (TORIYAMA KAZUHISA ET AL) 10 June 1975 (1975-06-10) claims; examples	1,10,11, 14-18	
US 3 966 631 A (TORIYAMA KAZUHISA ET AL) 29 June 1976 (1976-06-29) claims; examples	1,10,11, 14-18	
US 3 922 067 A (MURAO KENJI ET AL) 25 November 1975 (1975-11-25) claims	1,10,11, 14-18	
US 4 091 847 A (SORKIN HOWARD) 30 May 1978 (1978-05-30) claims	1,10,11, 14-18	
US 3 950 264 A (JONES JR FREEMAN B) 13 April 1976 (1976-04-13) cited in the application claims	1,10,11, 14-18	
GB 1 523 808 A (SHARP KK) 6 September 1978 (1978-09-06) the whole document	1,10,11, 14-18	
WO 86 04324 A (MERCK PATENT GMBH) 31 July 1986 (1986-07-31) cited in the application		
GB 2 161 637 A (STC PLC) 15 January 1986 (1986-01-15) cited in the application		
	US 3 888 566 A (TORIYAMA KAZUHISA ET AL) 10 June 1975 (1975-06-10) claims; examples  US 3 966 631 A (TORIYAMA KAZUHISA ET AL) 29 June 1976 (1976-06-29) claims; examples  US 3 922 067 A (MURAO KENJI ET AL) 25 November 1975 (1975-11-25) claims  US 4 091 847 A (SORKIN HOWARD) 30 May 1978 (1978-05-30) claims  US 3 950 264 A (JONES JR FREEMAN B) 13 April 1976 (1976-04-13) cited in the application claims  GB 1 523 808 A (SHARP KK) 6 September 1978 (1978-09-06) the whole document  WO 86 04324 A (MERCK PATENT GMBH) 31 July 1986 (1986-07-31) cited in the application  GB 2 161 637 A (STC PLC) 15 January 1986 (1986-01-15)	

1

## INTERNATIONAL SEARCH REPORT

form on patent family members

Internation No PCT/GB 3/03807

				I	
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 3888566	A	10-06-1975	JP CH DE FR GB	49037883 A 564205 A5 2340637 A1 2195803 A1 1434275 A	08-04-1974 15-07-1975 28-02-1974 08-03-1974 05-05-1976
US 3966631	Α	29-06-1976	JP DE FR	50039686 A 2439074 A1 2240764 A1	11-04-1975 06-03-1975 14-03-1975
US 3922067	Α	25-11-1975	NONE		
US 4091847	Α	30-05-1978	NONE		
US 3950264	Α	13-04-1976	NONE		· · · · · · · · · · · · · · · · · · ·
GB 1523808	Α	06-09-1978	JP JP JP DE FR SU PL	52005685 A 1170823 C 52048339 A 57059531 B 2629698 A1 2316310 A1 691109 A3 121180 B1	17-01-1977 17-10-1983 18-04-1977 15-12-1982 13-01-1977 28-01-1977 05-10-1979 30-04-1982
WO 8604324	A	31-07-1986	AU CA DE WO EP JP US	589597 B2 5356686 A 1277828 C 3585740 D1 8604324 A1 0213146 A1 62501915 T 4834906 A	19-10-1989 13-08-1986 18-12-1990 30-04-1992 31-07-1986 11-03-1987 30-07-1987
GB 2161637	A	15-01-1986	AU AU EP JP JP JP US	575963 B2 4427185 A 0171177 A2 1849710 C 3052876 B 61057989 A 4703305 A	11-08-1988 16-01-1986 12-02-1986 07-06-1994 13-08-1991 25-03-1986 27-10-1987